# GARDEN AND FOREST.

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TABLE OF CONTENTS.


| | PAGE. |
|---|---|
| EDITORIAL ARTICLES:—The Speedroad in Central Park | 145 |
| A Modern Massachusetts Farm. (With plan.) | 145 |
| The Great Madroña of San Rafael. (With figure.) | 146 |
| Color in Rural Buildings.....*Mrs. Schuyler Van Rensselaer.* | 146 |
| NEW OR LITTLE-KNOWN PLANTS:—New Orchids.....*R. A. Rolfe.* | 148 |
| FOREIGN CORRESPONDENCE:—London Letter.....*W. Watson.* | 148 |
| CULTURAL DEPARTMENT:—Flower Garden Notes.....*E. O. Orpet.* | 150 |
| The Cultivation of Bulbs in the South.....*Professor W. F. Massey.* | 152 |
| Early Irises.....*T. N. G.* | 152 |
| Notes on Begonias.....*T. D. Hatfield.* | 152 |
| Arachnanthe Cathcartii.....*John Weathers.* | 153 |
| Chrysanthemum Blight.....*S. A. Beach.* | 153 |
| Manettia bicolor, Acacia Drummondii.....*T. D. H.* | 153 |
| CORRESPONDENCE:—Grafting.—I.....*A. W. Pearson.* | 154 |
| Myosotis palustris.....*Charles L. Mann.* | 154 |
| Baccharis halimifolia in Atlantic County, New Jersey...*Rev. John E. Peters.* | 154 |
| EXHIBITIONS:—The Boston Flower Show | 155 |
| PERIODICAL LITERATURE | 155 |
| NOTES | 155 |
| ILLUSTRATIONS:—Plan of the Phillips Estate, Beverly, Mass | 149 |
| The Great Madroña of San Rafael, Fig. 23 | 151 |


## The Speedroad in Central Park.

IF the construction of a road for fast driving in Central Park was a matter of local importance merely, we should not feel called upon to make any further allusion to the subject. But the case is a representative one. All our rapidly growing cities feel just as New York does this pressure for more room. Land set apart for pleasure-grounds in these cities is constantly coveted by individuals and classes who wish to devote it to some special use which seems to them of pressing importance. Central Park was the first area of anything like a square mile in extent ever designed as a consistent work of landscape-art in the heart of a great city for purely rural recreation and the refreshing influence of pastoral scenery. If, after thirty years of experience, the leading city of the country should declare by its example that such a park could not be maintained for such a use, it would be a discouraging blow to all who take any practical interest in public pleasure-grounds in other cities. It would incite attacks on every other park and make all park-property in the country more insecure.

There is no need of restating the arguments against this project. Four years ago, when the last formidable movement for securing the so-called speedroad was in progress, the salient objections to it were set forth in this journal (Vol. I., p. 37), and as late as our issue for March 9th the subject was discussed in a leading article. It may be well, however, to make a brief statement of what has recently taken place. Less than a fortnight ago the House of Assembly passed an act which had previously passed the Senate authorizing the construction of a road in the park for fast driving. The Governor signed it the same afternoon and the Mayor of this city gave a statement to the morning papers in approval of the measure. The Park Board at a special meeting the next day ordered their engineer to prepare plans for the road and voted funds to defray the expenses of the survey. Nearly every newspaper in the city at once attacked the scheme and a volunteer committee of citizens was formed to invite petitions of remonstrance and secure funds for holding a public meeting. The demonstration was so prompt and energetic that the Mayor discovered a "difference of opinion" in the matter, and at his request the Park Board announced that it would give a public hearing on the question. The protestants appeared in force and the Park Board rescinded its action; and after the hearing had been continued another day, the Board voted that it was inexpedient to build the road. All this happened within a week. Meanwhile, names by the thousand and money enough to meet all expenses poured into the rooms of the Citizens' Committee. The newspapers kept up the attack with singular unanimity and vigor, and last Friday a memorable meeting to demand the repeal of the act was held in the hall of the Cooper Union. A committee of one hundred was then selected to lay the case before the legislature, and it is possible, though hardly probable, that the act will be repealed before this paper reaches its readers.

In large cities individuals are apt to feel indifferent about matters of this sort, so that the spontaneous uprising of the people was almost a surprise. Particularly gratifying was the action of the workingmen, whose organizations lent most efficient aid to the defenders of the park. One of the most telling speeches at the meeting was made by Mr. Archibald, representing the Central Labor Union, who showed that the park had an especial value for the families of those who could not get away to the mountains and seaside for the summer. The sound views on the true functions of an urban park expressed by all the speakers at this mass meeting showed that the people are prepared to take high ground as to the value of such parks, and this is a renewed assurance of their safety. Ex-Mayor Hewitt was especially happy in demonstrating that a park is a great educational and moral as well as a sanitary influence in city life. A letter from Mr. Frederick Law Olmsted argued that since the earnings of the people of the city had been put into the park for a particular object it would be unjust and immoral to divert it to a use inconsistent with that object. The construction of the speed-track would, therefore, lessen the security of every man in the enjoyment of his earnings and tend directly to anarchy.

Altogether there is good reason to believe that the park is in less danger of any destructive invasion than it was before this attack. The people have had an opportunity to give expression to their affection for the park and to prove their power in protecting it. They have been called to think over their moral obligations in the matter, and the public-spirited men of the city, the men on whom its future prosperity depends, will give their influence to the side of stability and security when such questions arise, and will not permit the city to degenerate into a condition where nothing is sacred and nothing is safe.

## A Modern Massachusetts Farm.

THE plan of an estate in North Beverly, Massachusetts, published on page 151, deserves the careful attention of all persons interested in rural economy because it stands for what we hold as the fundamental principle underlying all successful agriculture—the adaptation of the crop to the character of the soil. This principle is well understood now in most European countries, but the neglect of it in this has caused the unprofitable removal of millions of acres of valuable forests from lands suited by nature to produce forests, but entirely unfit for permanent and profitable tillage.

The estate which stretches along the western shore of Lake Wenham, a beautiful sheet of fresh water, consists of 275 acres, and was bought in 1879 by the late John C. Phillips, of Boston. The purchase comprised a number of farms or parts of farms and various small parcels of land; only a part of it, perhaps forty acres in all, being adapted

to tillage. A hundred acres of upland and swamp were covered with a natural growth of hard wood, Pines and Soft Maples, the remainder of the estate being overlaid by dry glacial drift, clothed with scanty herbage and occasional clumps of stunted Blackberry-bushes. Early attempts at cultivating this land had exhausted whatever fertility it had ever possessed, and the free range of cattle over it for generations had prevented trees from springing up to cover its naked surface and replace the forests of Pine which should never have been cleared from it.

The dwelling-house was placed by Mr. Olmsted, who was asked to prepare a scheme for laying out the estate, on a rough stone terrace built to receive it on the steep bank of the lake, and the drives as they appear on the plan were constructed under his directions. The beauty of the situation and the charm of the native woods on the sides of the old moraine in the north-eastern part of the estate had been the prime motives which induced Mr. Phillips to choose this particular site for his country home, but this once determined on it became necessary to develop some scheme for the economical treatment of the large area of poor land which could not be tilled except with large annual expenditures of money, and which could never be made into satisfactory and productive farming-land. It was evident that if the agricultural efforts of the owner could be confined to the good land that better results could be obtained than could possibly follow any effort to convert a larger part of the estate into a farm, and under Mr. Olmsted's advice this view was adopted. A tract of low, wet, rich soil, about forty acres in extent, in the north-west corner of the estate, and just north of the barns as they are now located, was thoroughly drained and made one of the best and most productive fields in Massachusetts. It remained to determine the destination of such portions of the remainder of the estate as were not already covered with trees. It was soon apparent that there was but one course to follow, and that was to cover it as rapidly as possible with such varieties of trees as grow naturally on poor soil, and so avoid the expense of annual tillage or the annual harvesting of unprofitable crops of scanty grass.

Mr. Olmsted's idea was to convert the whole estate, with the exception of the arable land in the north-west, into a more or less open forest, in the midst of which the manor-house should stand like a forest-lodge in an oasis of kept grounds confined to its immediate neighborhood and encircled by the boundaries of the terrace; and although this plan has not yet been entirely carried out, all the operations of late years have been made with the idea of gradually extending the plantations over the whole of the dry uplands. The first plantation was made in 1880, and the area now planted is about seventy-five acres. A number of varieties of trees were tried, principally European Larch, the Scotch Pine, the Austrian Pine, the Norway Spruce, the White Pine, the Douglas Fir and the Canoe Birch, but of late years White Pines have been used almost exclusively, about sixty thousand having been planted since 1883. The Larch has grown very rapidly, making trunks a foot in diameter in twelve years, and are as thrifty and as promising of long life on the shores of Lake Wenham as the Larch on Mr. Henry G. Russell's estate, described last year by one of our correspondents; they are not as tall, however, as the Canoe Birches, which have grown on this soil with remarkable vigor, indicating the value of this tree, one of the best timber-trees of our northern forests to plant on light gravelly soil. The Douglas Spruce has grown rapidly, too, and vigorously, and there is every indication that it will reach a large size on this soil. The Colorado variety of this noble tree, which is certainly one of the most promising of all exotic conifers introduced into the north Atlantic states, can be seen in greater numbers on the Phillips estate than anywhere else, different individuals displaying a remarkable diversity of habit and a great variety of shades of color. White Pines increase in height from one to four feet every year; and the appearance of the young plantations indicates that, for covering the sterile hills of New England in spite of insects which attack and often deface it, this is the safest and the most profitable tree to plant.

We feel that an estate like this, managed intelligently on a system conceived and developed with the view to the best permanent economic results is an object-lesson of real public importance; any well-planned and prudently conducted experiment which directs public attention to the possibility and advantage of using lands not otherwise valuable in a way to secure a fair profit to their owner helps to establish and enlarge the prosperity of the state.

Here in America carefully prepared schemes for the improvement of country estates generally die with the person who makes them, and his efforts and expenditures are too often lost, but a better fate has attended the Phillips Place, which fortunately has passed into sympathetic hands, and is administered with intelligence, energy and steadiness of purpose, and with the determination to develop and perfect the well-considered plans of its original owner.

## The Great Madroña of San Rafael.

SOME months ago there appeared in this journal (vol. iii., p. 509) an account of the California Madroña (Arbutus Menziesii), and a portrait of a fine specimen which had grown to a great height in the forests of northern California; in the present issue we are able to reproduce a photograph of the trunk and principal branches of the famous Madroña-tree which grows on the slopes of Mount Tamalpais, in the grounds surrounding the reservoir that supplies the town of San Rafael, in Marin County, with water. It is the largest of its race of which we have any record, one of the most marvelous trees now standing on this continent, and, from its position within the bounds of a carefully preserved piece of public property, one of the few really great trees of the country which may be expected to continue for many years to astonish and delight the lovers of nature and to live out its natural life. What the age of this tree is no one can conjecture; it has already attained a height of more than a hundred feet; the branches cover in one direction the span of seventy-five feet, and of ninety feet in the other direction, and the mighty trunk girts twenty-three feet at three feet above the surface of the ground.

For these measurements and for the admirable photograph from which the illustration has been made, we here offer our thanks to Mr. E. W. Woods, of Sancelito, California, an enthusiastic lover and student of trees.

## Color in Rural Buildings.

THE use of color on the exterior of buildings is a subject to which in recent years American architects have given much attention. Foreign examples of strongly colored or polychrome work, both ancient and modern, have been seriously studied; the particular characteristics of our climate and atmosphere have been considered; and it has been recognized that in America, where the air is clearer and the light more intense than in northern Europe, very marked effects of exterior color can be used with good results.

The pale gray stone almost universally employed in Paris is admirably suited to local atmospheric conditions. Every painter knows that the atmosphere of northern France contains moisture enough to make a soft grayish envelope for all terrestrial objects, and to give the sky a soft and rather pale tone; and the so-called Caen stone of Paris is neither too white nor too dark to fit well into the scheme which the great colorist, Nature, has laid out. In Holland and England, where the air is still more moist, the deep red so commonly used for roofs is equally appropriate, coming out well against the heavy skies and harmonizing with the strong dark greens which much dampness produces in foliage and grass. But go to the south of France and to Spain and Italy, where the air is clearer, the light more forcible, and the sky bluer, and you will find that the best colors, and those most generally employed, are vivid yet light—chiefly whites and yellows, which, as a painter would say, have the same "value" as the clear bright greens of the

vegetation, the yellows and whites of the soil, and the blues and whites of the heaven. And in the roofs a clear, not heavy, shade of brown has generally replaced the deep red of northern countries—a tone which is not too pronounced to mate with the lighter ones, but is welcome among them as giving an accent of contrast and relief. If a bright red roof is wanted in a southern climate, it ought to be a bright light red—not the bright deep red of Holland, where a pale red would seem too weak for Nature's tones, and a clear brown would hardly tell in the landscape at all.

Our summers in the latitude of New York are as warm as those of southern France, and, indeed, New York actually lies in the latitude of Madrid and Rome. Our winters, of course, are very much colder; but atmospheric conditions do not change to correspond with isothermic lines; and all the year round, even in northern New England, we have vivid skies, a pellucid thin atmosphere and a clear bright scheme of natural color. Therefore, as our architects now know, the teaching of the south, not of the north, of Europe should be followed in the external coloring of our buildings.

Much has been done to improve and vary this coloring during the past ten or fifteen years. The streets of New York, for instance, are no longer given over to the dark brown sandstone and the strong red brick which used to rule supreme. Sandstones and limestones of paler colors, pale reddish, yellow and light brown bricks, and even bricks which are almost orange-colored, have been largely adopted, vastly to the increase of beauty of effect. In Boston a quite bright red sandstone is common, light brick is also much used, and Richardson's example has been often followed in the matter of polychromatic treatment. Of course, every result is not good; but we can note gradual growth toward true excellence in the color treatment of our city buildings; and, we are glad to say, white is again coming into favor for buildings in the country.

Once upon a time, of course, white was almost universally used in such buildings. They were almost always of wood, and whether they were simple box-like cottages, pillared Jeffersonian homes, or pseudo-classic or pseudo-Gothic churches, they were almost always given a coat of pure white paint. Then came a reaction, for which, we imagine, Downing was largely responsible. His admiration for English rural architecture was rightly very great, and his perception of the crudeness of such architecture in America was naturally keen. But in trying to reform the ways of his fellow-countrymen he did not realize that under different natural conditions different expedients are to be advised. Many chapters in his *Horticulturist*, and many pages in his books on rural building, are devoted to decrying the use of white paint. After his day we had a long reign of dismal hues—dark grays and sombre browns and dusky yellows—which, if they did not always painfully afflict the eye, did not give it pleasure or harmonize well with the surrounding colors of nature. Later there came a reaction, and in the days when villas were built in fantastic forms and profusely adorned by the jig-saw, bright hues of a wrong kind were applied, two or three, or even more, together, to add in tint to variety in form.

But it was soon felt that decidedly too much variety had been achieved, and another reaction came about. Painting was largely dispensed with; staining was substituted in a way which sometimes gave a pleasing and naturally mellow look, but sometimes revealed a mistaken desire to imitate the effects of age; or these effects were left to produce themselves: the shingles which were generally employed instead of the long-universal clapboards were left to "weather" into various tones of gray, and merely the trimmings and shutters of the house were painted.

These last-named practices are still pursued, but paint has come back again into greater favor, largely as a result of the liking for "Colonial" fashions of building in which clapboards are more appropriately used than shingles; and, owing to the same cause, as well as to a better understanding of the requirements of our atmosphere, clear light tones are generally preferred. We have come to see that our great-great-grandfathers were wiser than we once thought when they painted their stately Colonial houses a pure white or a pale yellow, and relieved them with trimmings and shutters of a darker color; and also that the farmer who had liked his cottage white, probably merely because it looked cleaner thus, was unwittingly more artistic than his descendant, who thought it more dignified and refined to live in a dark gray house with a deep red roof.

The natural tone which weathering gives to shingles of good quality is rarely inharmonious except where the air is strongly impregnated with salt, and portions of the house therefore get an almost absolutely black color that is certainly not desirable But, as has been said, we realize now that shingling is not appropriate with every style of house, and is usually best on those of relatively modest size and aspect. There are many cases when painted clapboards are much better.

Of course, a white house, standing by itself in a glare of sunlight, is unpleasant to look upon close at hand, and makes an inharmonious spot in the landscape when seen from a greater distance. But this is a trying situation for any house to occupy; when it must be borne with, stone or brick, of not too deep a color, is a better material than wood; and if wood must be used and staining is not desirable, then the best thing is to choose some tint which is nearly, but not quite white,—a pale yellow or a delicate, not slaty, shade of gray. But even a very large house can be white if it is surrounded by trees, for their shadow will temper its glare. Indeed, a white house thus shadowed makes, we think, as a rule, a more beautiful effect in our landscapes than any other. There were recently exhibited in this city a number of pictures by Mr. Leonard Ochtman, painted in Connecticut, and representing pastoral scenes. In many of them the main feature was a white house, or group of houses, accompanied by umbrageous Elms. The artist had not in any degree toned down the color-scheme of New England summer nature, or tried to mitigate the whiteness of his buildings; yet the effect of his canvases was eminently harmonious, and one felt that the color-scheme would have lacked a most desirable note had the houses been anything but a true white. The pictures of many other artists have, in recent years, shown us similar things, and we can discover them for ourselves if we know how to use our eyes when we are actually looking at American landscapes. Notice, for instance, if you ascend the Hudson River, which of the houses on the hill-sides look best, and you will decide that it is almost always the white ones. None looks better than the old Catskill Mountain House, perched up on its steep bluff with a line of forest behind it. Compare its effect with that of the dull-colored Kaaterskill House not far away, and you will be glap that its original color has not been changed.

Indeed, there may be cases where a house can stand apart from trees and yet look well if painted white. This, I think, is when it stands on the edge of the sea, with strong blue color below it, and probably stretches of brilliant white beach to support its own whiteness. Certainly we should not want the color of our whitewashed lighthouses changed. It is this color, quite as much as their conspicuous simple forms, which makes them such welcome additions in any sea-shore view. A further proof of the appropriateness of white in our climate is the beautiful effect that sails make when seen against the shore. We have been foolish enough to imitate the architectural coloring of Holland under our very different skies; but at least we have never felt that our fishing-craft, yachts and sail-boats would fit better into the landscape if their sails were stained with those brownish and deep yellowish tones which harmonize so well with Dutch shores and skies and waters.

Of course, to cover a house with painted clapboards is not the only way of having it white. We might well make a more frequent use than we do of plaster and stucco in their various forms, and a half-timbered house with stuccoed panels of white would often look admirably where one all of white would be too glaring. And then there are limestones and marbles among more costly materials.

Even if absolute white is not chosen, and naturally I do not recommend that it should be used to the exclusion of all other colors, care should be taken to get a tone that is neither too deep nor too strong. Very pale yellow is often the best possible color, while, in the same situation, a deeper yellow would look crude, a neutral tint would be ineffective, a harsh brown or gray would conflict with Nature's scale of color, and a deep red roof would only make matters worse. Gray, if it is light and pure enough, is a very good color, too, especially when relieved by white trimmings and very dark green blinds, and is, indeed, perhaps the best color for houses which stand in exposed situations. It may be so chosen as to give practically the same effect that the weathering of shingles produces under the best climatic conditions.

Brick, in very pale yellow tones, is an excellent material for country houses; and, of course, any color that can be applied to wood can be given to bricks as well, and many of them are better than the strong red which once seemed their only natural hue. Very successful in color is a large old brick mansion in the neighborhood of Boston which for generations has been painted a clear and distinctly lavender gray, the painter never being allowed to mix the tint without one of the family standing by to see that he does not get it too dull and impure.

New York. *M. G. Van Rensselaer.*

## New or Little-known Plants.

### New Orchids.

Cypripedium × "Monsieur Finet," Hort.—A very distinct hybrid raised between C. callosum superbum and C. Godefroyæ by Monsieur Regnier. It is said to be one of the most beautiful hybrids known, and to be comparable with C. × tessellatum porphyreum and C. × Van Houttei. The flower is lined and spotted with green and rosy purple on a paler ground, which becomes white toward the margin of the dorsal sepal. It is quite intermediate in shape.—*Orchidophile*, 1891, pp. 321, 333, 335, with figures.

Cypripedium × Bosscherianum, Hort.—A hybrid raised by Monsieur Ch. Vuylsteke, of Loochristy, Ghent, Belgium, between C. Spicerianum and C. barbatum superbum. The dorsal sepal is very broadly rounded, strongly reflexed at the sides, bright at the base, white above, with deep purple midvein and fine light purple nerves on either side, with paler transverse reticulations. The petals and staminode are much like those of C. Spicerianum, except that both are rather flatter, and the lip is about intermediate in character.—*Gardeners' Chronicle*, January 2d, p. 11.

Cypripedium × decorum, Hort.—A hybrid raised by Monsieur Jules Hye-Leysen, of Ghent, Belgium, between C. × Sallieri Hyeanum and C. Lawrenceanum. The dorsal sepal is deep brown, shading into dark green toward the base and into pinkish magenta near the white margin. The lip is metallic brown in front, and paler behind, and the lip garnet, flushed with mauve.—*Gardeners' Chronicle*, January 2d, p. 11.

Leptotes bicolor, Lindl., var. brevis, Rolfe.—A distinct variety with short broad segments, and the front lobe of the lip broadly elliptical, obtuse, and pure white instead of purple. It appeared with Messrs. B. S. Williams & Son, of Upper Holloway, in a batch of the ordinary form.—*Gardeners' Chronicle*, January 9th, p. 42.

Cypripedium × Cowleyanum, O'Brien.—A handsome hybrid raised by Mr. Cowley, in the collection of F. G. Tautz, Esq., of Ealing, by crossing C. Curtisii with the pollen of C. niveum. It is fairly intermediate in character, and bears some resemblance to C. × Marshallianum. The flower is white, the dorsal sepal with about fifteen clear dark purplish crimson, somewhat dotted, lines, and tinged with rosy purple between them, and the petals covered with small dark purplish crimson spots. The lip is bright rosy purple, and the staminode dark purple, with a white margin.—*Gardeners' Chronicle*, January 16th, p. 73.

Cypripedium × Ensign, O'Brien.—A hybrid raised in the collection of C. Winn, Esq., of Birmingham, between C. × Harrisianum and C. barbatum Crossi. Thus it is C. × Harrisianum crossed back with one of its parent species. It is said to resemble the first-named, but with a more shiny surface, and a more rosy hue over the petals and dorsal sepal.—*Gardeners' Chronicle*, January 16th, p. 73.

Phalænopsis Schilleriana, Rchb. f., var. purpurea, O'Brien.—A bright rosy purple variety, with flowers darker than usual. It appeared with Messrs. Hugh Low & Co., of Clapton.—*Gardeners' Chronicle*, January 23d, p. 105.

Epidendrum Godseffianum, Rolfe.—A species belonging to the Encyclium section, imported with Cattleya labiata from northern Brazil by Messrs. F. Sander & Co., of St. Albans. The sepals and petals are light green, somewhat nerved with light brown, and the lip white, the front lobe being lined with bright rose-purple, and the side lobes similarly marked at their base. The apex of the column is orange-yellow.—*Gardeners' Chronicle*, January 30th, p. 136.

Cypripedium × gigas, O'Brien.—A hybrid raised in the collection of C. Ingram, Esq., of Godalming, by Mr. Bond, from C. Lawrenceanum crossed with the pollen of C. Harrisianum nigrum. It is intermediate in character, though somewhat approaching the seed parent in its flat, circular upper sepal, which is very dark chocolate at the base, lined with the same on an emerald-green ground above, and with a broad pure white margin. The petals and lip approach those of the pollen parent in character, but the staminode is more reniform in shape.—*Gardeners' Chronicle*, January 30th, p. 136.

Cypripedium × Swinburnei, O'Brien.—A hybrid raised by Messrs. Heath & Son, of Cheltenham, between C. insigne Maulei and C. Argus Moensii. The dorsal sepal is green at the base, with lines of distinct brownish purple spots which decrease in size toward the broad white apical margin. The petals are greenish white, tinged with white on the outer halves, and with a number of dark purplish blotches, as in C. Argus. The lip is green, tinged and netted with reddish brown, and the staminode yellow with a green veining in the centre.—*Gardeners' Chronicle*, January 30th, p. 136.

Kew. *R. A. Rolfe.*

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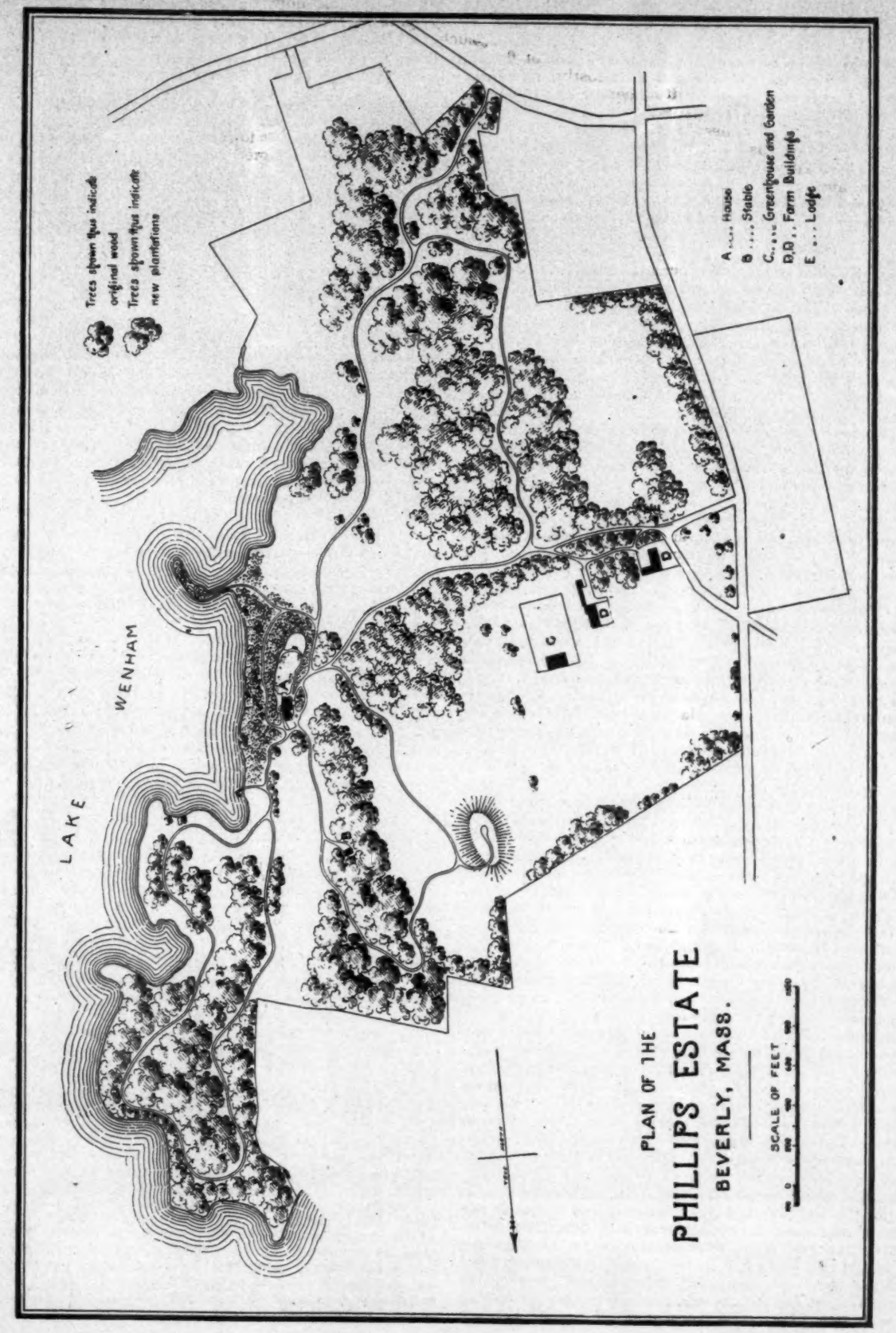
## Foreign Correspondence.

### London Letter.

Fruit from South Africa.—A further consignment of fruit from South Africa arrived at Southampton on the 6th instant, and was disposed of by auction sale at Covent Garden Market. The condition of the fruit was so good that really fancy prices, even for London, were realized. For instance, boxes containing from thirty to thirty-five apples fetched seven shillings and sixpence (nearly two dollars) each, while pears in some instances sold even better, one case containing forty-two fruits realizing thirty-four shillings. Melons brought about three shillings and sixpence per box, and grapes fifteen shillings per box of twenty pounds. These prices, especially those of apples and pears, are probably much higher than the present condition of the fruit market would warrant, bar favor. At the same time, there can be no doubt that good fruit of this kind will find a ready market in England any time between February and June. That this is the case is shown by the rapid development of the trade in Tasmanian fruit, which, according to the following extract from a daily paper, will shortly arrive in England in large quantities: "The P. & O. Steamship Company have arranged that their steamers shall make twelve visits to Hobart, Tasmania, for the purpose of bringing to England a consignment of 240,000 bushels of apples. The first lot has been dispatched, and will arrive in London toward the end of the present month. The fruit is packed in cool chambers during the voyage." At this rate there is some hope that we shall soon be able to purchase such delicious tropical fruits even as the durian and the mangosteen in Covent Garden Market as fresh and as palatable as they are when newly gathered from the tree.

Plants for House Decoration.—This was the subject of a short paper by Mr. John Wills, which was read at the last meeting of the Royal Horticultural Society. Mr. Wills has for many years held a first position among the horticultural "decorators" of England. He stated that the grand displays now produced at balls, festivals, etc., by means of plants and flowers were scarcely known twenty years ago. About that time Sir E. Scott gave *carte blanche* to Mr. Wills, whose work occupied three days. The Marquis of Bristol soon afterward had an elaborate arrangement in which no less than six tons of Ivy alone were used. Lady Sutton spent £1,000 in one month in decorative work with plants, and on one occasion a Belgravian magnate spent £1,400 on a single effort! All good for trade, no doubt, and that is the best that can be said of displays of this kind. Some of the statistics given by Mr. Wills are interesting. He found on inquiry that there are at least 300 nurserymen and market-gardeners in England who grow for Covent Garden alone; also that 20,000 van-loads of decorative plants were sent to Covent Garden last year. The plants which Mr. Wills has found most serviceable for the decorator are Livistona Sinensis (Latania Borbonica), L. australis, Phœnix rupicola, Rhapis, Kentias, and Cocos Weddelliana among Palms. He also recommended As-


Trees shown thus indicate original wood
Trees shown thus indicate new plantations
A .... House
B .... Stable
C .... Greenhouse and Garden
D,D .. Farm Buildings
E .... Lodge
LAKE
WENHAM
PLAN OF THE
PHILLIPS ESTATE
BEVERLY, MASS.
SCALE OF FEET

paragus plumosus, Dracænas, Aspidistra, Hydrangea, Ferns, Crotons, Pandanus, Cycads, etc. It would take an enormous number of such plants to justify a charge of £1,400. Mr. Wills, however, in his special efforts uses such plants as Nepenthes, Orchids and all kinds of flowering plants. I have seen some of these costly arrangements made by Mr. Wills, and they were certainly very beautiful. At the same time one cannot help thinking with Dr. Masters that the art sometimes displayed in the cottager's window is at any rate as pleasing.

Flower Dyeing.—A few weeks ago a green Carnation made its appearance in the button-holes of the members of a political party in Paris, which consequently became known as the party of the Green Carnation. The badge of the Boulangists was the red Carnation, while the anti-Boulangists wore the same flower, but with its stalk uppermost. The green Carnation attracted some attention on account of its exceptional color, an English daily paper stating that this "new color in Carnations had been raised by a Parisian florist, who was in the way of making a fortune out of it!" The color was really the result of placing the flowers in a dye which soon permeated the petals and gave them an artificial color. In the *Gardeners' Chronicle* this week is an interesting account of some experiments of this kind which were made by Mr. W. Dornington and Mr. Brockbank. They procured some aniline dyes, which were dissolved in water to about the transparency of claret. In these solutions flowers of various kinds were placed, or rather their stalks, for the dyes did not change the colors of the flowers when simply immersed in them. Lily-of-the-valley became beautifully tinged with pink or blue in six hours; Narcissi changed from pure white to deep scarlet in twelve hours, and yellow became striped with scarlet in the same time. Flowers of Lapageria, Cœlogyne, Calla, Cyclamen, Snowdrop, Hyacinths, Hellebores, Tulips and other plants were treated, and gave equally striking results. White Tulips were changed to pink, blue, green or purple in a few hours, and White Lilac became pink or blue. The blue Rose, blue Chrysanthemum and red Daffodil can therefore now be made to order!

Bordeaux Mixture.—A report upon the experiments made for the prevention and cure of the Potato disease (Peronospora) has just been published by Messrs. R. Veitch & Son, Exeter. They experimented on ten varieties of Potato, applying the mixture twice, once in June and again in July, the result being an "unqualified success, for it acted as a preventive where the disease had not appeared, and as a cure where it had done so, at the same time showing itself to have had a fertilizing effect as well." Messrs. Veitch state that the use of the mixture for potatoes last year was "a great success in many parts of America, and almost universally so throughout France, where the idea was first carried into practice." A committee of the Royal Agricultural Society of England have recommended that renewed experiments on Potatoes with this mixture be taken in hand again during the forthcoming season, and Mr. Carruthers, F. R. S., of the British Museum, has undertaken to conduct an inquiry into the exact nature of the effect of the mixture upon the Peronospora. Messrs. Veitch urge cultivators generally to give this Bordeaux mixture an extended and impartial trial. The results obtained by Messrs. Sutton & Sons, which I mentioned in a previous letter, were almost the opposite of those obtained by Messrs. Veitch. Evidently, therefore, the time for a verdict as to the value of the mixture in England, at any rate, has not yet arrived.

Rhododendron seabrifolium.—I forget if I have mentioned this new Chinese Rhododendron, which flowered at Kew for the first time last year, when it was figured in the *Botanical Magazine* (t. 7159), where it is described as an erect unbranched plant, with scabrid, hairy ovate-acuminate leaves two and a half inches long, and a compact head of white flowers one and a half inches across. Neither this description nor the picture which accompanied it does full justice to the plant as it is now at Kew. It has six branches, each bearing a terminal cluster of exceedingly pretty white flowers, slightly flushed with rose, and with pink anthers. The "legginess" of the plant last year was owing to its not having been stopped. With a little management it may be made bushy enough, and as it flowers freely early in the year it will be useful. So far, it has only been tried in a greenhouse, but it may prove to be quite hardy in England, for, according to Delavay, who discovered it in Yun-nan, it grows at a higher altitude there than R. decorum, a species very like R. Catawbiense, and which we also owe to Delavay. Now, R. decorum has stood the severe weather of the present winter in the open as well as the hardiest of Rhododendrons. We have in cultivation at Kew, beside the two species mentioned, R. Delavayi, said to be one of the handsomest, R. lacteum and R. racemosum. These are all from Yun-nan.

Azalea calyciflora.—This is one of the forms of A. indica, and nearest that generally known as A. amœna, of which we possess now several pretty seedling varieties, which were raised by an English amateur, Mr. Caldwell. A. calyciflora differs from these, however, in having larger flowers and their color, which is a soft salmon-red. The habit of the plant is like that of A. amœna; like it, too, it forces well. By the way, has the last-named Azalea ever been tried out-of-doors in your country? Here it is quite hardy, forming a beautiful little shrub which is pretty at all times, and emphatically so when clothed with its rosy purple flowers. Another of the same type, known in gardens as A. obtusa, is equally hardy.

London. *W. Watson.*

[Azalea amœna is well known in this country, and perfectly hardy in the latitude of New York.—Ed.]

## Cultural Department.

### Flower Garden Notes.

It is in season to note a few of the desirable plants for the summer garden, both annual and perennial. We have many plants that are perennial if wintered over where the space can be spared for them. One of these is the beautiful Grass, Pennisetum longistylum. Last summer, when planted the length of a wide border in front of greenhouses, it was very attractive, and it will be better known in future, though it is by no means new. Pennisetum grows about two feet high, and can easily be raised from seed of good quality, but it can also be easily propagated by dividing the roots and starting them in small pots in spring. Our plants are now stored in a cellar with other tender plants and must now be divided and started into growth to produce good effect early in summer. The same is true of the Cannas, called dwarf, the more recent varieties of which are distinctly in advance of all others. The Star of 1891 is now a fine sight in full flower in the greenhouse here. We have eighty plants from one obtained last spring, it propagates so readily by division. A bed of this Canna alone, seen last summer, was very attractive and worthy of reproduction by those who have the plants at their disposal. When planted out, the Canna Star of 1891 grows to a height of about five feet, but under pot-culture it becomes a handsome plant, rarely more than three feet high.

The newer strains of Dahlias are to be recommended, especially the dwarf ones, both single and double. The staking, which is usually necessary with other kinds, is not needed for these plants, as they make a handsome bed of themselves. In this locality Dahlias are a complete failure after the Chrysanthemum fly appears. These insects sting the growing tips of the shoots and buds and that is the end of the display for the season. I have noticed in cottage gardens by roadsides, where the Dahlias can hardly be recognized for the dust that covers them, that they flower freely and the insects do not trouble them.

The Marguerite Carnations are rapidly gaining in favor, and have already passed through the "novelty" stage or crisis, which means usually fifty per cent. single flowers if double ones are promised. These carnations, now offered in separate colors, are fragrant and free-blooming, but to get the most out of them they should be sown at once in heat, if this has not already been done, to be pricked off singly and transferred later to the place where they are to flower. They will need

careful staking to prevent them from becoming storm-beaten when in bloom. Of China Asters tried last summer, Queen of the Market proved the best of all for cutting purposes, and was also the earliest to flower. The stems were stiff and of good length. Peach-blossom is a pretty shade of pink, and when grown in quantity produced a very pleasing effect, as did also the dark crimson General Jacqueminot, quite the best dark Aster I have met. With Mignonette, the Giant Crimson has proved the best and most vigorous variety indoors and outside in summer. The spikes are large, of a pleasing color and as fragrant or more so than any other kind. Mignonette requires a moist soil or plenty of water applied to keep it going all the summer, and then the more they are cut the better the plants will flower, and the same is true of Sweet Peas. There is a threatened scarcity of the supply of Sweet Pea-seeds, and the price has been raised accordingly by some dealers. These should be among the first seeds sown out-of-doors, so that it is wise to obtain them early. If the flowers are picked clean every day they will continue to appear until frost comes. When once allowed to seed, then flowering is over.

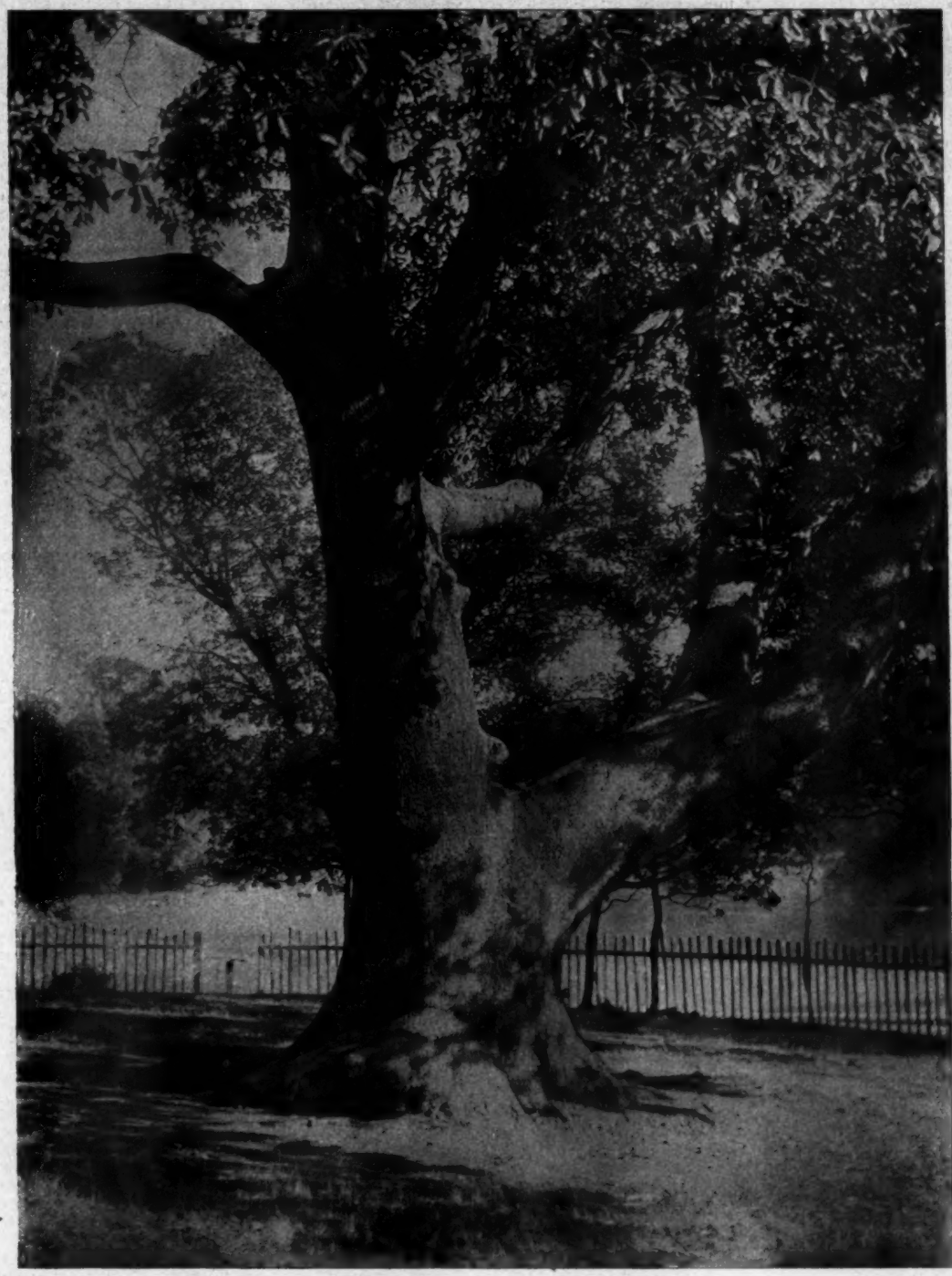


Fig. 23.—The Great Madroña of San Rafael—See page 146.

For forwarding the numerous tender annual seeds nothing is better than a gentle hot-bed. When the fermenting material used is four to five feet thick and covered with about six inches of soil, the pots and pans may be plunged in it and receive a gentle warmth that will greatly help germination, and afterward serve as a place for forwarding the young seedlings when pricked out until time for planting out. Those who have only a cold frame in winter should excavate within it to the required depth, and fill this in the spring with fermenting material that has been mixed with leaves a day or two and allowed to become warm. It can then be trodden firm in the frame and used at once for sowing seeds if six inches of soil has been placed on top. This is the best place for sowing seeds of Asters, Stocks, Zinnias, Tomatoes, Peppers, Egg-plants and many more of a like character. The frame may be used in summer for Cucumbers or Melons in places where these do not thrive in the open, as, for example, in this section.

South Lancaster, Mass. *E. O. Orpet.*

## The Cultivation of Bulbs in the South.

IN the January number of the *American Agriculturist* Mr. Thorpe called attention to the fact that the production of tuberous bulbs and plants for the American and European markets has become centred in one or two localities in eastern North Carolina. He also speaks of the great adaptability of the warm coast plain of North Carolina to the production of bulbs that are now imported by the million from foreign lands, just as the Tuberose was brought from Italy thirty years ago. There is a wonderful future for this favored section in the hands of skillful cultivators. Of Narcissus alone varieties by the hundred and bulbs by the million are imported annually from the south of Europe, all of which could be grown to better advantage in eastern North Carolina at much lower prices than they now cost, and it will be just as easy for growers here to monopolize this culture as they have that of the Tuberose. Many of these Narcissus are too tender for the open air in the northern states, but all can be grown here to sell to the northern florists for forcing purposes. The gorgeous family of Lilies, too, would find here a congenial home. Lilium longiflorum is diseased in the north, while here it grows in perfect health. In the black peaty soils of eastern North Carolina the Bermuda Lily, I feel sure, can be grown to a greater perfection of bulb than in the thin soils of Bermuda. Our native Amaryllis, which grows so profusely in a wild state, can also be profitably cultivated for the northern wholesale trade. All the gorgeous tribe of Amaryllis, which are nursed in pots at the north, can be grown here in the open air, and many of them sell now at prices which would make their culture profitable to the intelligent grower. Roman Hyacinths in this peaty soil develop bulbs of great size and vigor, and they continue to bloom profusely much longer than at the north. The plants begin to bloom here about the 20th of December, and throw up spikes of flowers without intermission till late in March, a season of bloom unsurpassed elsewhere. Here, too, the popular Tuberous Begonias find a long season for perfect development, and their tubers rest unharmed in the ground all winter. Gladiolus will ripen two crops on the same land in one season, and make corms of enormous size. Sternbergia lutea, the yellow fall-blooming Amaryllid, develops a magnificent growth in our mild winters (their season of growth). Cannas keep perfectly in the ground where they grow, and can be dug for shipment all through the dormant season. Caladiums of all kinds make superb tubers, from the chopped up rhizomes, in our long seasons.

In fact, then, in the whole list of bulbs and tubers now used so extensively, and imported from abroad, there are none that cannot be better grown in the coast region of North Carolina, where the soil is that of Holland and the climate that of Italy.

Raleigh, N. C. *W. F. Massey.*

## Early Irises.

IRIS HISTRIOIDES is one of the latest additions to the list of early-flowering bulbous Irises. It is a native of Palestine, and has been introduced to cultivation by Herr Max Leichtlin. We are again indebted to the great Baden-Baden gardener for a first-rate plant for the early garden. I. histrioides is one of the reticulata group of Irises, and follows I. Bakeriana closely in time of flowering, coming into bloom in my garden early in March this season. In this latitude the weather in early March is a very variable quantity, and it is somewhat difficult to describe the habit of plants with experience gained only from those fully exposed to the vagaries of the climate. The first flower from this variety, probably from being caught by very severe weather, was only one inch high, but later blooms are expanded at three inches, which is rather taller than I. Bakeriana. The flowers vary somewhat in color, but are shades of purple, with golden keels and purple markings on a white ground. One especially beautiful one was spotted with deep royal purple markings. There are also said to be white forms of this variety. The flowers are delicately fragrant and thoroughly weather-proof. Frost of fifteen or twenty degrees they heed not at all, high winds they do not nod to, and warmth sufficient to melt snow starts them into activity. The last flower expanded promptly as the last of six inches of snow which had covered them disappeared. It seems to me that this is a charming and valuable plant.

A clump of I. reticulata will not be in full flower till early in April. These, while a little later, are among the most charming of early flowers, and are not as commonly grown as they should be. The typical I. reticulata is entirely satisfactory, admirable in color, fragrant and hardy. Numerous forms of this have been raised from seeds, one of the most striking being I. reticulata major, somewhat larger than the type, with a very beautiful flower of deep honest purple, with golden markings. This is an English variety, and the best form yet seen by me. The form which I know as I. reticulata Krelagei has a reddish cast, and does not appeal pleasantly to my color-sense. I. reticulata seems to be a favorite plant with Herr Leichtlin, and he has raised a number of new forms, some of which are said to be very handsome and satisfactory blues, but these have not been grown in my garden.

I. Danfordiæ is a yellow-flowered Iris of the same group, which seems somewhat more shy in blooming. At least the bulbs in my border are again not inclined to flower. Perhaps their location is too wet and cold, for these Irises seem happier in a sunny and rather dry border, sheltered from north winds.

We are promised a wider range of color in Iris Bakeriana, reaching from the blue of the type to white. Probably the varieties will be no handsomer than the charming one first introduced, the falls of which are so beautifully marked with a rich velvet-blue on ground of white and light blue. This Iris on second trial proves entirely hardy even in wet soil, and increases rather rapidly by offsets. If seed were desired it would be necessary to grow it under shelter, as it flowers so early in the year that no seeds are set in the open. The flowers are very lasting, and, though opening in late February, they are not affected by the hard weather of that season. Usually they retain their form for a fortnight.

Elizabeth, N. J. *J. N. G.*

## Notes on Begonias.

BEGONIA BISMARCKI.—This comparatively rare and beautiful garden hybrid is one of the best winter-blooming varieties we have. Its constitution is very robust, and partakes generally of B. rubra in character. The leaves, however, are larger, and much more divided. The panicles are large, and so, too, are the individual flowers, which often measure two or more inches across. The male flowers, which, as in all Begonias, open first, are comparatively small, and it is not until the female flowers display themselves that their full beauty is seen, the large seed-vessel, with largely developed, bright red wings, being their most conspicuous feature. The petals are light rose, incurving slightly—a form which adds considerably to their effect. The plant is easily propagated, the cuttings bloom in the propagating-bed and grow into neat plants at once. For bedding it has exceptional merit, since very few of its class bloom well during summer. As a cut-flower variety it is excellent, the flowers lasting a long time.

Of the many fine varieties raised from B. semperflorens the large red one, with its unwieldy catalogue name of Begonia sempervirens robusta gigantea rosea, is the best. It is a good, all-around Begonia, either for bedding in summer or blooming in the greenhouse in winter. It makes a handsome specimen from the time it is rooted as a cutting, and every shoot blooms from the first growth made. The leaves are bright shining green, nearly round, and five to six inches in diameter. The stems, petioles and foot-stalks of the flowers are red, which adds somewhat to their beauty. The flower-stems are stout, erect, long enough for decorative work, bearing dense panicles of large vermilion-red flowers. I have some fine specimens, less than one year old, in eight-inch pots, which are more than three feet in diameter by two feet high.

The well-known B. glaucophylla scandens (Comte de Lenninge) is very generally used for basket-work; but for draping a pedestal it has a unique value. Two plants which I have in view are grown in large pans, in which they have been two years, and these set on pots, which they drape completely.

They are now covered with short dense panicles of brick-red and white flowers. The female flowers, with white seed-vessels and large red wings, are in beautiful contrast to the red male flowers, and handsome white-margined, glaucous foliage. To have this species bloom well in winter a little rest or partial drying should be given after blooming, say, from June to August. A few cuttings taken now and rooted would make, if placed five in a pan, a neat specimen for next winter, but would not bloom so well as two-year-old plants which had been rested in summer.

B. Verschaffeltiana is a rather common, but handsome hybrid between B. carolinæfolia and B. manicata, and though it is intermediate in character, it is evidently more robust than either parent. It is tall, coarse and unsightly as an old specimen, but when well grown from year to year as a cutting, it makes a splendid plant. The leaves are palmate, about one foot in diameter, very similar in shape to those of B. manicata. The cymose panicles of lilac-colored flowers have a clear and graceful spread of eighteen inches or more, and are supported on stout stems two feet long. An individual panicle will remain well in bloom for two months, and as flower-stems appear in succession, both from the main stem and side shoots, the plant may be said to bloom the whole winter. Certainly it has presented an effective display of bloom for more than three months. The whole plant presents a one-sided appearance, no matter how it may be exposed to light. This, however, appears to be rather an advantage, as the plants are faced about.

Wellesley, Mass. *T. D. Hatfield.*

## Arachnanthe Cathcartii.

THIS remarkable and beautiful Orchid is, unfortunately, but too rarely seen in flower. Only in a few collections, apparently, does the gardener seem to possess the knack of inducing it to bloom annually. Recently, at one of the meetings of the Royal Horticultural Society in London, a spike bearing three large flowers was exhibited by Mr. W. Iggulden, of Marston Gardens, Frome, who grows the plant successfully, and who informed me that previous spikes produced by the plant had borne four flowers. Individually these are about three inches in diameter, with roundish oblong sepals and petals, creamy outside, and pale yellow on the inner surface, which is transversely marked with wavy and often confluent bands of deep reddish brown, which give the segments a beautiful arachnoideous appearance, like that of some Stapelias, Huernias and allied genera of Asclepiadeæ. The lip is remarkable; the small side lobes are roundish, inturned and streaked with crimson or red. The middle lobe, however, is much larger, and reminds one very forcibly of the sole of a horse's hoof, with its ridges and depressions. The border is buff-yellow, while the centre is of a clear shining white—the whole being very fleshy and brittle, and easily movable at the slightest touch or breath. The plant itself grows several feet long, like Renanthera coccinea, having stems as thick as a lead-pencil. The leaves are borne chiefly on the upper portion, and are six to eight inches long, strap-like and very leathery, with an oblique two-lobed apex.

The generic name, Arachnanthe, established by Blume, has not yet universally commended itself to gardeners, who in the matter of names are most conservative, and in this particular instance prefer the older, shorter, but, nevertheless, erroneous name of Vanda, applied to the plant by Lindley when describing it in his *Folia Orchidacea* in 1853. The differences between Arachnanthe and true Vandas are palpable enough, and need not be entered into here. Suffice it to say that for many years the species now under consideration has been considered as not a Vanda at all. The late Professor Reichenbach therefore established a new genus expressly for it, and called the plant Esmeralda Cathcartii. Bentham, however, discovered that Esmeralda of Reichenbach was practically identical with the Arachnanthe of Blume; hence in that standard work, the *Genera Plantarum*, the name Arachnanthe has been retained in preference to Esmeralda on account of its priority.

The discovery of Arachnanthe Clarkei is claimed by Sir Joseph Hooker, who, in describing the plant in the *Botanical Magazine* under tab. 5845, says: "It is a native of hot, damp, shady valleys in the eastern Himalaya, delighting in the neighborhood of waterfalls where exposed to constant humidity. . . . It was discovered by myself in 1848, and transmitted to the Calcutta Botanic Gardens, where, after flowering, it was sent off to England, but did not survive the voyage." Reichenbach, however, in reference to the discovery, states in the *Xenia Orchidacea* that "long before the expedition of Drs. Hooker and Thomson, Dr. Lindley had received it from Griffith with numerous flowers of other curiosities preserved in large glasses of alcohol." Although numerous attempts were made to introduce living plants, the failures to do so were many. It appears, however, that at length Messrs. Veitch were not only successful in obtaining living specimens, but were the first to flower the plant in March, 1870, and in October of the same year a plant six feet high produced several flowers in the collection of Mr. C. Stead, of Baildon, near Leeds.

At one time great difficulty was experienced in the cultivation of A. Cathcartii (which is named after Mr. James F. Cathcart, who was one of the earliest explorers in the eastern Himalayas), but now that its wants are better understood, it ought to be managed with tolerable ease. It may be either trained on a wall or grown in a pot filled with clean crocks, the surface of which should be covered with fresh sphagnum. In the latter case it will be necessary, owing to the rambling habit of the plant, to put a stick to it. There should always be plenty of moisture in the atmosphere, and if the upper portion of the plant is allowed to assume a more or less horizontal position there is, for some reason or other, more chance of flowers than if the shoots are trained bolt upright. The thermometer in the winter months should register from sixty to sixty-five degrees, Fahrenheit, at least during the day, with a drop of only a few degrees at night-time. In the summer months this matter will be more easily regulated, but attention should then always be given to watering and occasional syringing, so as to supply continually the moisture which must inevitably go off in evaporation, especially if air is admitted into the houses to any extent.

Isleworth, London. *John Weathers.*

## Chrysanthemum Blight.

IN an article on Fungus Troubles in the Cutting-beds, published in GARDEN AND FOREST February 24, 1892, page 91, Dr. Halsted calls attention to the severe blighting of Chrysanthemum-foliage and damping-off of Chrysanthemum-cuttings due to a fungus of the genus Septoria. A Septoria was also found abundant last fall on Chrysanthemums at the station and at greenhouses in this vicinity. Specimens of this Septoria submitted to Dr. Halsted for examination were found to be identical with the one referred to in the article above mentioned. During the winter some experiments have been tried for the purpose of controlling this disease, and at least one of the fungicides used promises to give good success.

Cuttings from diseased plants were struck about January 1st and potted off in due time. The blighted foliage was removed February 8th, and the plants were divided into three series. Series 1 was sprayed once a week with potassium sulphide; series 2 was sprayed once a week with ammoniacal solution of copper carbonate; series 3 was left untreated for comparison with the other two series. Without giving detailed notes of the experiments, it may be said that the potassium sulphide solution has given good results, but not so good as the ammoniacal solution of copper carbonate. Plants treated with the latter remedy show less of the disease, and are much more thrifty and vigorous than are the same varieties of series 1 and 3.

Further experiments with other fungicides are also in progress, and it is expected that the results will be published when the work is completed. Attention is here called to the beneficial effects which have thus far attended the use of the copper carbonate solution, with the hope that Chrysanthemum-growers may be led to make further tests of this remedy. It may be well to state that excessive or careless use of the remedy has proved injurious to the foliage of some plants. In the experiments here reported, however, no injury to the foliage is apparent. The solution is, of course, applied to all parts of the plant in a very fine spray without drenching them. The formula used is five ounces of copper carbonate dissolved in three pints of strong ammonia (twenty-six per cent.) and diluted to fifty gallons. A convenient way is to dilute the mixture to six quarts, and keep this strong solution on hand in tightly corked bottles. When the dilute solution is needed for use it may be easily prepared by adding a gallon of water to one pint of the strong solution.

Geneva, N. Y. *S. A. Beach.*

**Manettia bicolor.**—This pretty winter-blooming greenhouse climber, although very common, is rarely well grown. The best success is secured when young plants are grown all summer without blooming. Old plants, when cut back, never break well at the bottom and always look ragged. I have usually grown my specimens in pyramidal form, by taking long, pliant stakes and tying them in at the top, but it always appeared to me that the plant, unable to reach its limit of growth, became top-heavy. This winter I placed one near

a large circular iron support, of which it has taken advantage, and is now well on toward the roof, blooming every inch of the way. Next season I hope to have two or three plants at the base of this support and expect to see them mount clear to the roof. The Manettia can be increased from seeds, which ripen freely, or from cuttings.

**Acacia Drummondii.**—No Acacia can be so easily propagated from cuttings as this one, a very pretty and distinct species from Swan River. This, taken with the fact that it makes a very neat specimen and blooms while small, should make it a close competitor for popular favor with the more common Cytisus racemosus. The leaves, with a very short petiole, bear twin pinnæ, with very few obtuse glaucous leaflets. The drooping cylindrical spikes of yellow flowers look very much like the male catkins of a Willow. This, as well as other Acacias, should not be planted in the open soil unless the plants have a well-developed ball of roots. Until that time they should be plunged in pots, where an abundant supply of water at all times can be given. Peaty soil is generally recommended as most suitable, but I find these plants are not at all fastidious in this respect. Any good loam will do, free from fresh manure.

Wellesley, Mass. *T. D. H.*

## Correspondence.

### Grafting.—I.

To the Editor of Garden and Forest:

Sir,—The interesting paper of Professor Bailey on grafting suggests some experiences corroborative of his judgment that grafting is not a devitalizing process.

When I bought the farm which I have had since 1871, its former owner showed me a small Pear-tree which he had planted six years before, and which had made no apparent growth. I pruned, fertilized and watched it for several years. In the spring it opened its leaves, it shed them in autumn, but it made no visible growth of wood. I then removed it to a seemingly better position, to see if change might awaken it. Digging it up carefully I could not see either in roots or top any indication that they had increased in size a particle since taken from the nursery. It was a case of complete vital inertia. For nearly ten years longer it stood unchanged. It merely lived, and bore an annual crop of leaves without growth. Some years ago, while top-grafting other trees with the Kieffer Pear, I cut off all the branches of this dormant tree and inserted in their stumps cions of the Kieffer. These were set in April. Every one of them grew, and the next October many of them were over five feet in length. From the date of this grafting this inert Pear-tree has grown vigorously, its trunk has trebled in diameter, its branches spread luxuriantly, and in 1891 it bore a bushel of fine fruit.

In a Pear-orchard, which I planted in 1872, stood a Bartlett tree some five feet high with a small branched top. Yearly it blossomed, but did not grow. I pulled off the blossoms annually to direct its energies to the development of wood, but it failed to do more than blossom and bear a few leaves. To encourage it I let it bear two or three pears; these were fine fruits. But even this indulgence did not improve its disposition; it would not grow. In April, 1886, when top-grafting, a neighbor came to learn the art. I had finished my work, but my obstinate little Pear-tree stood handy, so I sawed it off to give my friend a lesson in grafting. He stuck into it a couple of Kieffer cions, and under my instructions completed the job. Those grafts grew strongly; in a couple of years I cut away one of them, and the other is now ten feet high, and was last year so burdened with fruit as to be in danger of breaking down.

I could give many other illustrations in Apple and Pear trees of the evident vitilization of the stock by the graft. The Kieffer Pear especially seems as if its vitality will revitalize any Pear-stock on which it may be worked. It shows strong growth on all Pear-stocks, but stronger on some varieties than on others, proving that there is a difference in congeniality of temperament. I have top-grafted the Kieffer on the Bartlett, Clapp, Sheldon, Anjou, Lawrence and many others. On the Sheldon and on the Mount Vernon the union of the cion with the stock is so intimate and complete that it needs close inspection to perceive where the junction is made. In 1891 the top-grafts on all these trees were so loaded with fruit that many of them broke down; but in no instance did this breakage occur at the point of union. Such has been the case in my Apple-orchard, where nearly every tree was top-grafted after ten years of growth. Here many limbs are broken by last summer's crop, but there are no breaks at the junction of stock and cion. This, like a splice, seems to be the strongest part.

In these top-graftings it has been of interest to note the influence of the stock upon the graft. The Kieffer Pear has characteristics so marked as to be always recognizable, but these are in some degree modified by the habit of growth of the variety on which it is worked. The Kieffer graft grows differently on a Sheldon or a Clapp from what it does on Lawrence or Anjou. It also varies in the quality of the fruit. With me it is much better on the Seckel and on the Sheldon than on any other stocks I have grafted. I once took some well-ripened Kieffer pears, grown on Seckel stocks, to Mount Holly Fair, and submitted them to the taste of leading horticulturists and fruit experts. They pronounced these Kieffers "among the best pears they had ever tasted."

Among horticulturists it is a matter of dispute as to whether the stock influences the graft. I know of no systematic experiments to decide this question, but I have made many observations. I have been grafting and budding trees and shrubs for fifty years, doing much of this work simply for experiment, and my observations satisfy me that the nature of the stock does influence the nature of the graft. I have trees in my orchard top-grafted with cions taken from one tree—a Red Astrachan—on a neighboring farm. When these grafts on my trees bore fruit scarcely any one would believe the apple to be the same as those on the tree from which the grafts were taken. And these same Astrachan grafts on trees of different sorts differ from each other in habit of setting of the fruit and in time of ripening. I have the early Lippincott grafted on trees which were previously Fallawater and Spy. There is a marked difference in size and quality of the Lippincott fruit on these two sorts. I brought grafts from a tree of the Kentucky Jennetting growing on my old farm in Illinois, and with them here top-grafted a Fallawater-tree. The Jennetting here retains its habit of not opening its buds until after all other sorts in the orchard have blossomed; but I can see no similarity in its fruit here to the fruit which the Illinois tree used to bear. The apples look somewhat alike externally, but there is no other resemblance. In grafting the Grape I have seen a marked change produced in the Ives by grafting it on the Concord. It is larger in cluster and berry, and about five days earlier in ripening.

Vineland, N. J. *A. W. Pearson.*

### Myosotis palustris.

To the Editor of Garden and Forest:

Sir,—Near this place the railroad track passes through a piece of moist meadow-land in which a brook takes its rise, and all spring and summer this meadow, as well as the bottom of the brook and its sloping banks down to where it flows into Lake Michigan, are a sheet of beautiful blue, the color coming from an abundant growth of the common European Forget-me-not, which has been naturalized here. Whoever has seen a German meadow, the long grass flecked in a close pattern with the lovely blue Vergissmeinnicht and waving in the wind, blending the colors in most pleasing manner, or he who has seen this Wisconsin meadow illumined by spring sunshine will carry in his mind a picture never to be effaced. These plants were naturalized more than a generation ago by an intelligent German, Charles Kuehn.

Nothing is easier than to establish the Forget-me-not. If it is only set where the seed can reach a flowing stream, in a short time it will have spread wherever the water runs. The only danger to guard against will be the uprooting of the original plants, and it will be well to start them where some friendly hand can protect them.

Two Rivers, Wis. *Chas. L. Mann.*

### Baccharis halimifolia in Atlantic County, New Jersey.

To the Editor of Garden and Forest:

Sir,—The size to which Baccharis halimifolia grows in Atlantic County, New Jersey, is, I think, worthy of notice. Along the borders of the salt-marshes near Atlantic City I have often found it measuring from three and a half to four inches in diameter three or four feet from the ground, and from ten to twelve feet high. It certainly merits the name Groundsel-tree, as it assumes a tree-like form at least in this locality. Its conspicuous beauty in the fall of the year proves that it is worthy of cultivation, as has been already noted in Garden and Forest (vol. iv., p. 468). As bearing upon the possibility of its successful culture away from salt-water, I may state that I have found it as far as fifteen miles inland, and in places where

there never could have been any brackish water. I may add, however, that it was always found growing along streams or near wet places.

Pleasantville, N. J. *John E. Peters.*

## Exhibitions.

### The Boston Flower Show.

THE annual spring flower show of the Massachusetts Horticultural Society filled its larger hall last week with a collection of flowering plants which, in some respects, was the best seen in recent years at one of these exhibitions, although the low temperature of the opening day made it impossible to bring large specimen plants to the city.

Nothing from the cultural point of view equaled a collection of Persian Cyclamens staged by Mr. Kenneth Finlayson, gardener of Dr. C. G. Weld, of Brookline. The plants were marvels of good cultivation, clean and healthy, with large foliage and quantities of large well-colored flowers. As specimen plants nothing so good has been seen in Boston before. From the same establishment were sent a collection of Cinerarias, which are there made a specialty, although this year the plants were hardly equal in finish to those which Dr. Weld exhibited last year. His bulbs, too, especially Hyacinths, were very fine, as were those exhibited by John L. Gardner and N. T. Kidder. Hard-wooded greenhouse-plants never appear at Boston flower shows in any great variety, unfortunately, for certainly there was nothing more interesting in this show than the Chorozemas, Eriostemons, Boronias and Grevilleas exhibited by Mr. Gardner.

Siebrecht & Wadley, of New Rochelle, exhibited ten varieties of Pitcher-plants, including a new seedling, which received a certificate of merit. Tea Roses were shown in good condition, although none of the collections were exceptionally fine. It is a suggestive fact that Tea, and not hybrid Perpetual Roses, were chiefly exhibited this year in Boston. It is to be hoped that this is an indication that the extravagant habit of forcing hybrid Roses is going out of fashion, and that the more beautiful and delicate Tea Roses are again to take the first place in winter decoration.

The display of Carnations, owing to the great encouragement in the way of prizes given this year to these flowers, was superior to any previous one, the principal contributors being R. L. Lombard and William Nicholson.

Orchids did not make a feature of the exhibition, although small well-grown collections were staged by E. W. Gilmore, of North Easton, John L. Gardner and N. T. Kidder, Mr. E. Butler setting up a remarkably well-grown plant of Dendrobium nobile, which took the first prize for a single specimen. The first Theodore Lyman prize for ten Orchids was awarded E. W. Gilmore, and the second to John L. Gardner, Mr. Kidder taking the first of the society's prizes for three Orchids, and Benjamin Gray the second. For stove and greenhouse plants Dr. Weld took the first, and Mr. Gardner the second prize. The first two prizes for six Cinerarias, the first and second for three plants, and the first and second for a single plant went to Dr. Weld, who also captured the first prizes for Cyclamens and Hyacinths and for the best three pots of Lilium Harrisii. To Warren Elwell was given the first prize for a general display of spring-flowering bulbs, open to florists only, and to R. L. Lombard the first prize for six varieties of Carnations, the second going to William Nicholson, and the third to H. K. Southworth. Paul Richwagen was awarded the first prize for twelve blooms of any crimson variety of Carnations with Ferdinand Mangold, and Galvin Brothers for twelve blooms of any pink variety with The Princess. The same firm took the first prizes for any scarlet variety with Hector, and for any white variety with Mrs. Fisher, while Golden Triumph, shown by R. L. Lombard, was considered the best yellow, and Waban, the best Tea Rose introduced since 1889.

## Periodical Literature.

A good idea of the character and composition of the forests which cover the southern Alleghany Mountains, the richest and most productive forests of deciduous trees in the world, is obtained from a report made by Mr. Jed. Hotchkiss, of Staunton, Virginia, on an investigation of the standing timber of the Guiandot Coal-land Association situated in Wayne, Logan and Lincoln counties, in the south-west corner of West Virginia, and published in a late number of *Science*. The principal timber-trees on about nine thousand acres were counted and measured, and in this way some reliable information has been obtained of the present average condition of the forests of this region. The diameter of the trees was taken at about four feet above the ground, and the length of trunks fit to cut into logs or for long timber was estimated by an expert timber-viewer. Trees less than eighteen inches in diameter, with the exception of Hickories and Locusts, which were measured from ten inches upward, were not included in the estimate. To show graphically the results of these measurements, Mr. Hotchkiss selects "a tract of 655 acres on the top of the dividing ridge between the waters of the east and the west forks of Twelve-pole River, two miles north-east of the new mining town of Dunlow, on the Ohio extension of the Norfolk and Western Railroad and about forty miles south-east from the Ohio River." About one-half of the tract lies on the east side of the dividing ridge facing to the north of east, and the other on the west side sloping south of west, the crest of the hill being about one thousand feet above the level of the sea. It was found that 16,989 trees, or an average of twenty-six large timber-trees to the acre, were growing on the 655 acres. Of these 1,986 were White Oaks, 5,886 were Chestnut Oaks, 1,100 were Black Oaks, 736 were Red Oaks, 2,547 were Hickories, 1,900 were Chestnuts, 207 were Locusts, 330 were Maples, 333 Birches, 858 Liriodendrons or Tulip Poplars, 939 were Pines, and 167 were Lindens.

It will be seen that the proportionate percentage of hard woods—that is, of all the trees with the exception of the Lindens, Pines and Liriodendrons—is remarkably large, or about eighty-eight per cent. The record of the diameter and length of each of the trees counted shows that most of them are of large size, the Oaks ranging in diameter from eighteen to sixty inches, and in trunk length from twenty to sixty feet. The Hickories range from ten to twenty-seven inches in diameter, and from fifteen to sixty feet in trunk length; the Pines from eighteen to forty inches in diameter and twenty to seventy feet in trunk length, and the Tulip Poplars from twenty to sixty-six inches in diameter and from thirty to eighty feet in trunk length.

## Notes.

Mr. H. E. Chitty, of Paterson, New Jersey, writes to *The American Florist* that 3,840 plants of the Carnation Lizzie McGowan, occupying a bench surface of 1,100 square feet, produced 60,550 prime flowers in 119 days, while 50,000 cuttings were taken from the plants during the last month of the time covered by this record.

The third series of Hooker's *Icones Plantarum*, consisting of ten volumes, with a thousand plates, has recently been completed. This work, in which are figured new plants from all parts of the world, is indispensable to working botanists, and as only two hundred and fifty copies are printed, this series, like the previous ones, must soon become scarce and difficult to obtain. We are glad, therefore, to be able to announce that a few copies are still to be had from the Director of the Royal Gardens at Kew, where the work is prepared with the aid of a fund left by Mr. George Bentham for the purpose. The price of the set of ten volumes is only £5, or twenty-five dollars.

Monsieur Edward André, the distinguished landscape-gardener and the editor of the *Revue Horticole*, has been elected a member of the National Society of Agriculture of France in the section of "cultures speciales" to fill the vacancy caused by the death of the late Monsieur Hardey. Membership in this society, which is connected with the Institute of France, is limited to one hundred, and is regarded the highest honor within reach of French cultivators of the soil. Monsieur André's associates in the section in which he will take his seat are Duchartre, Pasteur, Chatin and Henri de Vilmorin. It is eminently fitting that art in gardening should be represented in this august body; and no man in Europe so well deserves the honor of representing it or can speak with so much authority as Monsieur André.

Professor Halsted writes that he has observed during the past winter that eel-worms (nematodes) have been very destructive among young Ferns. The first leaves of Ferns are very small and delicate, and two or three worms are sufficient to destroy a plant, from which they pass on to the next victim. In one bed of young Ferns noticed the dead plants were separated from the living by a line as distinct as that between the burned and unburned portion of a meadow in early spring. These pests usually attack plants from the root, and probably at the outset have made their entrance into the Ferns from the soil, but they can also spread from leaf to leaf throughout all

the plants in the bed. The soil on which the Fern-spores are to be sown should be subjected to a high heat some time before that operation. This will destroy all nematodes in the soil, and after that lime-water, sulphur and other applications known to be injurious to the worms, but harmless to tender vegetation, should be used.

When flowers are placed near a wall-painting in Japan the greatest care is taken to secure harmony between the two, so that, viewed together, they may form a single agreeable decorative composition. Beside a long painting a low composition will be used, but when the picture is short and broad the flowers may stand high and full. If lake or river scenery is represented in the painting, water plants will usually be chosen for a floral arrangement, forming, as it were, the foreground to the painted landscape. The same kinds of plants, however, must never be repeated, because those in the picture would necessarily suffer by close comparison with their natural prototypes. In front of a painting which represents some flower of the season, a vase of water is often placed in which lie a few fallen blossoms and petals of the same flower, thus continuing the idea of the picture without giving rise to unfortunate comparisons. If a verse of poetry is inscribed on a wall scroll, flowers which illustrate the poem may be set beneath it, but some critics proclaim that this should never be done, as the sight of the natural flower restricts the imagination and may detract from the force of the sentiment expressed by the poetry.

The last number of the London *Garden*, which we have received, speaks of our Newtown Pippin as "an apple of the highest and finest flavor, a delicious combination of the acid and the slightly sweet which leaves no unpleasant reaction. It is an apple, too, which shows the weakness of the ordinary classification of dessert apples and cooking apples, for while it is the most perfect of apples for dessert-eating, it is also a perfect apple when stewed in its own sugar." What is of more interest, however, to American growers is that the demand for it in the London market has led some of our exporters into sending fraudulent barrels containing other kinds of apples and labeled as Newtown Pippins. The writer had seen one of these packages which bore all the external marks of containing the choicest of Newtown Pippins, but the apples, although large and fair, were absolutely devoid of the flavor of the genuine fruit. Such practices as this would soon ruin the reputation of these apples. Since we have a fruit which, when properly grown, excels in delicacy of flavor, the greatest care should be taken to prevent a substitution of any counterfeit, for this will inevitably cause a general suspicion of the stock and break down prices.

We have received a copy of the *Lakes and Summer Resorts in New Hampshire*, which has been issued by the Board of Agriculture of that state. It consists of nearly a hundred pages, with many beautiful pictures of lake and mountain scenery, and gives an authentic list of the summer hotels and boarding-houses of the state, with brief descriptions, names of proprietors, charges, etc. Two years ago efforts were first made by the state to advertise its abandoned farms and natural attractions, and it is said that four hundred and fifty of these vacant farms have since become occupied and the summer boarding business is largely increased. This pamphlet is issued to reply to the numerous letters of inquiry which are received about these subjects. The enterprise of the State Government is certainly to be recommended. Too much cannot be said of the grand mountain scenery and of the six hundred lakes which are scattered over the state. Many large estates and extensive private parks have already been established in New Hampshire, one of the latter containing 21,000 acres. These large estates are multiplying rapidly, and although we can hardly credit the statement of the pamphlet that "the time is fast approaching when New Hampshire will be one grand park," nevertheless it is true that rare opportunities are still offered for those who desire a country home, and especially a summer home.

Dr. C. B. Graves writes in the *Bulletin of the Torrey Botanical Club* for March that he has found in south-eastern Connecticut "a small but flourishing station" of Phlox maculata, the Wild Sweet William, which *Gray's Manual* describes as at home from "New Jersey and northern Pennsylvania to Minnesota and south to Florida and Arkansas." Dr. Graves saw the plant in a meadow beside Jordan Brook, in Waterford, about four miles from New London, and says: "So far as observed it is confined to two patches, the larger of which comprises an area of thirty or thirty-five square yards, the smaller less than half as large, lying thirty or forty rods farther down the brook. The plant grows very thickly in both these patches, and when in bloom fairly illumines the meadow. The interest in this station lies in the question whether the plant is or is not indigenous here. Only a little way from the meadow is a farm-house which has been occupied by the same family for several generations. There is no tradition in this family as to its ever having been introduced, and no one now living remembers a time when it did not grow in its present position. Furthermore, it is not found in any garden in the neighborhood, and, in fact, I have never seen it in cultivation in this vicinity. All these facts point to its being a native. On the other hand must be mentioned its very limited distribution, its occurrence so far north and east of its recorded range, and its nearness to human habitations. If introduced it must have been at some remote time in the past."

Mr. R. A. Rolfe writes that the economy of fertilization in the Swans-neck Orchids (Cycnoches) is very interesting, and only from this standpoint can we hope to understand the great diversity between the sexes in the majority of the species. In both the lip is uppermost, and forms a kind of landing-stage on which insects which visit the flowers alight. In all probability it is the insect's abdomen which comes in contact with the tip of the column, as the action can easily be imitated artificially. But in the case of the male flower a very curious mechanism comes into play. The stipes of the pollinium are tightly strained around the rostellum, but as soon as the sensitive filament is touched the pollinium is liberated and ejected from the flower by its own elasticity. During its short flight it not only straightens itself, but curls up into a spiral in the reverse direction, tightly clasping the anther-case, but leaving the viscid disk exposed, and this becomes tightly glued to the body of the insect. The pollen is now wrapped up in the anther-case, but the filament is hygrometric, and being exposed to the air it soon dries and straightens itself, when the anther-case, having served its purpose, falls away. Meantime the insect will have visited other flowers, and if one of these is a female the pollen would come in contact with the viscid stigma, between its pair of fleshy wings, and thus fertilization is effected. In the early morning these plants exhale a most powerful perfume, which serves to attract the insects. And now we may see the curious way in which the different structure of the male flower of the section Heteranthœ comes into play. In the section Eucycnoches the lip of the male is ovate, fleshy, and immovable (as in the females of the entire genus), so that it is by the movements of the insect that its body comes into contact with the apex of the column. But in the flowers of section Heteranthœ the lip is reduced to a small, round disk with radiating teeth, and instead of being immovable it is attached by a slender hinge, and as soon as the insect alights its weight depresses the hinge, and its body comes in contact with the apex of the column with some force, invariably liberating the pollinium. It is marvelous how perfect all these adaptations are, and it has been a work of the greatest possible interest to me to trace their action and use.

## Catalogues Received.

J. B. Alexander, Hartford City, Ind.; Price-list of Fruit Trees, Small Fruits, Ornamental Trees and Shrubs.—Andorra Nurseries, Chestnut Hill, Philadelphia, Pa.; Hardy Trees, Choice Shrubs, Plants, Roses and Fruit.—Joseph Breck & Sons, 51, 52, 53 N. Market St., Boston, Mass.; Novelties and Specialties in Vegetable and Flower Seeds, Bulbs, Roses and other Flowering Plants, Shade, Ornamental and Fruit Trees.—E. F. Brockway, Ainsworth, Iowa; Price-list of Transplanted Evergreen Trees.—A. T. Cook, Hyde Park, Dutchess Co., N. Y.; Vegetable and Flower Seeds.—John W. Douglass, 57 Beekman Street, New York, N. Y.; Illustrated Catalogue of Implements for the Farm.—Graham, Emlen & Passmore, 631 Market Street, Philadelphia, Penn.; The Philadelphia Lawn Mower and Lawn Sweeper.—John Laing & Sons, Forest Hill, London, S. E., Eng.; Special Catalogue of Caladiums.—National Hot Water Heater Co., Boston, New York, Chicago, San Francisco; The Spence Hot Water Heater for Heating by Hot Water Circulation.—Benjamin Rimbaud, Toulon (Var), France; Special Trade Offer of French Bulbs for Forcing.—Shady Hill Nurseries, Cambridge, Mass.; Illustrated Catalogue of Choice Trees, Shrubs, Vines and Plants. Supplement of New and Rare Plants.—C. Thurston, Paterson, N. J.; Price-list of Begonia Thurstonii.—Thomas S. Ware, Hale Farm Nurseries, Tottenham, London, Eng.; New Catalogue of Hardy and Greenhouse Climbing Plants, Single Roses, Rare Fruits, Culinary Roots, etc. Illustrated Catalogue of Pæonies, Primulas and Hardy Ferns. New Catalogue of Hardy Florists' Flowers. Illustrated Catalogue of Hardy Perennials.—Thos. W. Weathered's Sons, 244 Canal Street, New York, N. Y.; Hot Water Heaters, for Heating Dwellings, Conservatories, Greenhouses, Graperies, Poultry Houses, etc.